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Chapter One
Forest policy making in Sub-Saharan Africa: Challenges and opportunities for climate change and globalization

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Abstract

This paper offers broad forest policy options for Sub-Saharan Africa (SSA) in the face of new realities under climate change and globalization. The analytical framework starts with background information and trends for the region before examining the challenges and opportunities presented by climate change and globalization. The paper points out that SSA, home to 800 million people, has17% of the world's total forests and 20% of the world's biodiversity hotspots. In recent years SSA has experienced some encouraging annual economic growth rates reaching 7% in 2007. Despite this progress, Africa has 22 of the world's 25 poorest countries, and the number of people living in extreme poverty has been increasing. With forests gaining a new prominence due to their significant contribution to global carbon emissions, the paper analyzes the policy challenges presented by the evolving global carbon markets, concluding that REDD will not benefit all forests and countries equally. The impacts of climate change will affect SSA more than any other region because its people largely lack the means to adapt. Globalization is not new, but its pace and scope has accelerated, and it has created winners and losers. The paper highlights how under globalization, impacts affecting forests are driven by decisions in far away places and often outside the sector. The pace and complexity of globalization demands new national policy capacities, nimbleness and a transformation of forestry and related institutions. The paper briefly looks at how globalization is also driving biofuel development in SSA. The paper concludes with six key policy challenges that will confront SSA and how countries might respond.

Introduction

This paper examines the opportunities and challenges for effective forest policy making and implementation in Sub-Saharan African (SSA) in the face of climate change and globalization. Climate change and the globalization process could potentially undermine SSA's ability to benefit from its timber and forest ecosystem services for livelihoods and national development. When reviewing the challenges and opportunities for forest policy in the context of globalization and climate change, we need to understand that while SSA forests and people are diverse, they do share many commonalities. For example, while the region varies economically, geographically, ecologically and socio-culturally, there are similar patterns of forest and other resource dependency. Thus, without denying that the subcontinent is heterogeneous, this paper offers some broad directions for responding to new realities affecting the region.

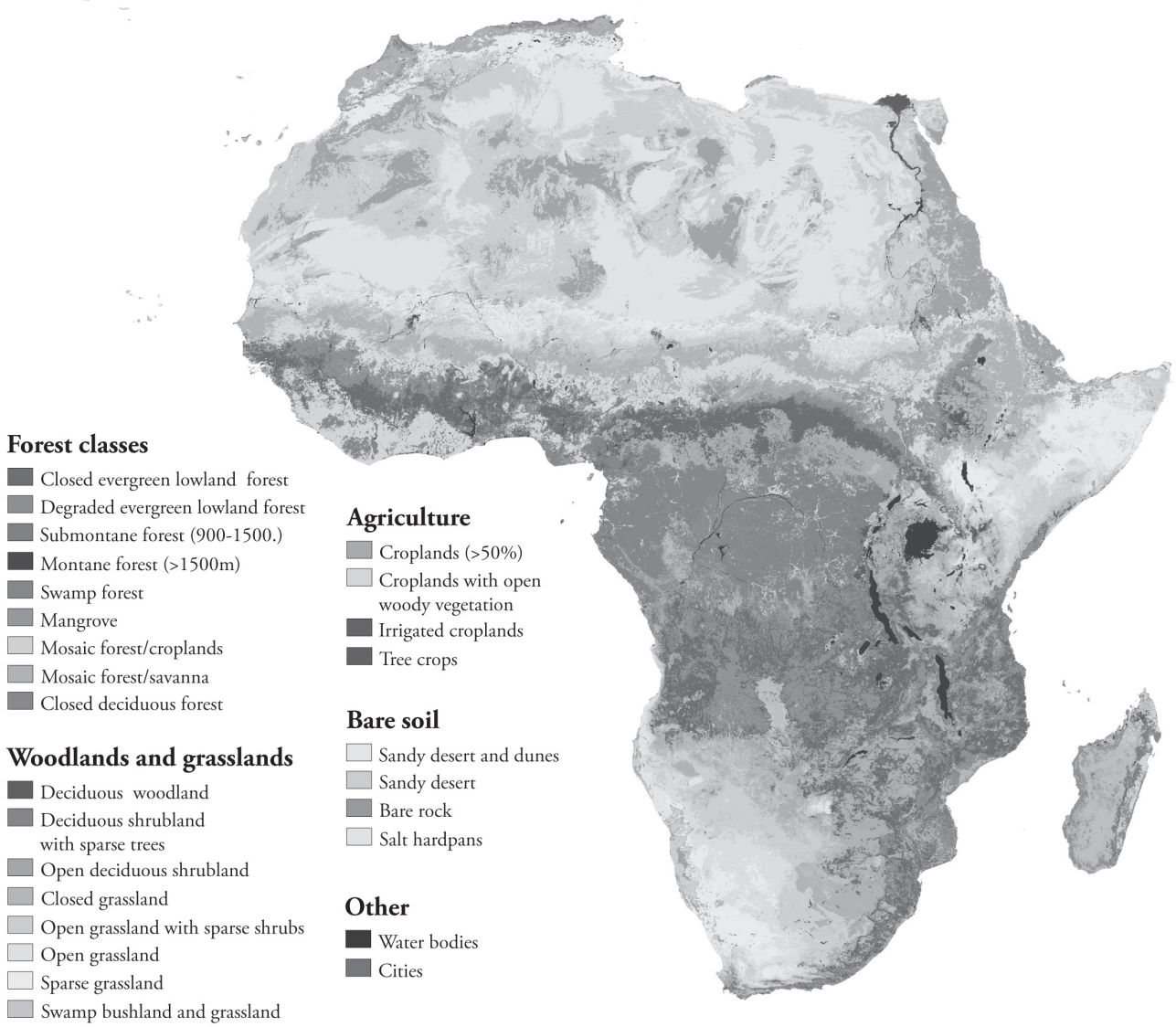
Any country that hopes to respond effectively to the forest policy challenges and opportunities presented by climate change and globalization requires the capacity to analyze and synthesize complex and dynamic sets of information and interactions that inform the forest policy-making environment. The fluidity of global trends also demands that policy actors and policy analysts shift mindset and recognise that the strong links between adverse environmental change, such as climate change, and human vulnerability demand more active collaboration between biophysical and

social scientists and between key sectors such as NGOs and governments. Furthermore, forestry and related institutions are under pressure to transform from promoting a forest management agenda and approach that is driven by a preoccupation with control and enforcement to one emphasising the services provided by forests. More importantly, there needs to be recognition that forest policies cannot be developed in isolation from other sectors. Often the greatest constraints to forestry development lie outside the forestry sector. Understanding and addressing these constraints can go a long way in realising the value and benefits of forests.

Globalization is not a new paradigm for SSA. The first serious impacts of globalization on SSA date back to the late 1980s and 1990s when structural adjustment programs (SAPs) were imposed as conditionality for loans from the Brenton Woods Institutions. Many of these SAPs failed to take the environment explicitly into account in their design. In 2008 the adverse impacts of globalization came into sharp focus in the form of the global financial crisis. Oil and food price shocks and turmoil in the commodities market presented substantial challenges for the subcontinent. While the record high oil prices reached in July 2008 benefited oil exporting countries, such as Nigeria, Central African Republic and Angola, they have hurt many oil importing countries, including Malawi, Zambia and Zimbabwe. The December 2008 decline in oil prices might provide much needed relief if it is sustained.

As in other parts of the world, the fluctuating price of oil and the emission levels generated by the global transport sector have also contributed to a growing interest in renewable energy, which has encouraged the production of biofuels from crops such as corn, rapeseed, sugarcane and palm oil. There are real concerns that a growing demand for biofuels could result in increased competition for land that threatens food production, which

Figure 1: Forest, woodland and vegetation cover in Africa. Source: UNEP.



in turn contributes towards food price hikes and exacerbates inequities between rich and poor.

While much of the subcontinent appears largely unaffected in the short term by the impacts of higher fuel and food prices and market turmoil, its economies are still likely to suffer. The slowing global economy could reduce the appetite for African products (including forests), impact tourism and reduce remittances sent by Africans working abroad. For example, in Kenya remittances which contribute up to 5% of GDP are projected to decline by as much as 40% (Mass and Willem te Velde 2008).

Forest Resources

Sub-Saharan Africa's forest resources are estimated to cover an area of 650 million hectares (See Figure 1 for distribution of forest and woodland cover). This represents approximately 17% of the world's total forest cover and 20% of the world's biodiversity hotspots (FAO 2007). The Congo Basin is the second largest continuous block of tropical rainforest in the world after the Amazon. The Basin accounts for more than 60% of Africa's biodiversity and ranks first in Africa for many taxonomic groups in terms of species richness (*Ibid.*). The miombo woodland, covering an estimated 270 million hectares, is the most extensive tropical seasonal woodland and dry forest formation in Africa and includes areas that receive more than 700mm of mean annual rainfall on nutrient poor soils. Substantial portions of South and Central African countries, including Angola, Zimbabwe, Zambia, Malawi, Mozambique, Tanzania and most of the southern part of the Democratic Republic of Congo (DRC) are covered by miombo woodland (Frost 1996). An estimated 40 million people inhabit areas covered, or formerly covered, by miombo woodland, with an additional 15 million urban dwellers relying on miombo sourced wood or charcoal for household energy (Campbell et al. 2006, SEI 2002).

Trends

Forest and tree loss

Despite their importance, Africa's forests continue to decline at a rapid rate: from 1990 to 2005, more than 9% of Africa's forests were lost at an average annual rate of approximately four million hectares. Although Africa hosts only 17% of the world's forests, the continent accounts for over half of global deforestation (FAO 2007). The greatest global net reduction of forest area between 1990 and 2000 occurred in SSA and was estimated at 52 million hectares, a loss of approximately 0.8% of the forest area per year (UNEP 2008). Loss of tropical dry forest in east and southern Africa, predominately in dryland regions, accounted for the majority of this decline (Millennium Ecosystem Assessment 2004). Human population growth, poverty, high dependence on natural resources and economic pressures to increase exports—especially agricultural, timber and mineral products—are key contributors to this decline in forested area (UNEP 2008). As supplies of wood and non-wood products from forests decline, the protection of trees and small groves of indigenous trees outside forests—e.g. grown on homesteads and communal lands—is becoming more important.

Growing Population

Current economic trends, climate change, a growing population and high rates of urbanization will have enormous implications for reducing poverty in SSA. Estimates show that by 2020 the urban population will be 646 million, more than double what it was in 2000 (302 million). By 2050 Africa's urban population is expected to be 53.5% of the total population, compared to 39% in 2005 (ESA 2007). All these trends will threaten access to food, water and forests, possibly increasing conflict. Policy interventions informed by research are essential to prevent or mitigate the impact of these changes.

Increasing resource dependency

An estimated 70% of the population of Sub-Saharan Africa (SSA) is rural and depends directly or indirectly on forests and woodlands for its livelihood (World Bank 2004). The World Bank further estimates that at least 20 percent of the disposable income available to landless and poor families also comes from forests (*Ibid.*). High dependence on natural resources in the absence of effective mechanisms for managing trade-offs has driven competition between different sectors and interests, resulting in increasing conflicts and resource degradation. Furthermore, rural poverty levels are high. Improved land management is therefore critical for national development, poverty reduction, and social stability.

SSA's dynamic landscape mosaics are changing due largely to anthropogenic factors, the interplay of people with changing ecosystems and climate change. In most areas of SSA there are pressures on forests due to heavy dependence on ecosystem resources for subsistence and economic activities such as mining, hydro-power generation and irrigation. These trends in deforestation and resource dependency are likely to be compounded by high population growth which will remain largely rural.

Economic trends

Economic growth in Sub-Saharan Africa, outside of South Africa, achieved a remarkable 7% annual increase in 2007, the highest in some 35

years. By 2010 this annual growth is expected to decline to 6.6%. Despite positive gains in economic development, 22 of the world's 25 poorest countries (and 33 of the poorest 50), based on gross national income, are in Africa, as are 29 of the 31 least developed countries. Such trends have resulted in Africa having one of the highest levels of inequity. South Africa and Namibia, for instance, are among the world's most inequitable nations (World Bank 2008).

In many forest rich countries commercial logging is an important source of foreign currency. Cameroon, for example, is among Africa's leading producers and exporters of sawn timber and tropical logs; it ranks fifth in the world. In 2001, Equatorial Guinea exported US$62 million of wood-based panels, representing 14% of its GDP (ADB 2007). The dependence on exporting raw materials to earn much needed foreign currency continues to encourage a pattern of unsustainable natural resource use.

Forests and Climate Change

Forests started gaining new attention in 2005 when a group of developing countries with rainforests presented a proposal requesting that the Conference of the Parties (COP) at the United Nations Framework Convention on Climate Change (UNFCCC) include reducing emissions from deforestation in their discussions. This proposal was made following a growing recognition that deforestation generates carbon emissions (Coalition for Rainforest Nations 2008). Forests gained further prominence with the publication of the Fourth Assessment Report by the Intergovernmental Panel on Climate Change (IPCC). The IPCC estimated that 1.7 billion tons of carbon are released annually due to land-use change, of which the majority is tropical deforestation. This represents 20–25% of current global carbon emissions, which is greater than the percentage from the fossil fuel-intensive global transport sector (Parry et al. 2007).

The potential for emissions mitigation through forestry in the African region per year is estimated at 14% of the global total and the avoided-deforestation potential at 29% of the global total (Bryan et al. 2008). The Central African forests provide a critical buffer against global climate change, storing an estimated than 23 billion tons or more of carbon (World Bank 2004).

While forests are receiving this new interest, policy makers should not lose sight of the fact that there are other carbon-rich ecosystems such as grasslands. This is particularly important for dry forest countries that are concerned that they might be excluded from a post-Kyoto Reducing Emissions from Deforestation and Degradation (REDD) regime.

Climate Mitigation: REDD

Forestry contributes 17.4% and agriculture another 13.1% of global annual emissions (IPCC 2007a). Hence controlling deforestation in tropical developing countries is seen as a low cost strategy for reducing carbon emissions (Seymour 2008). The magnitude of carbon emissions from deforestation and degradation means that REDD requires a global and national mitigation response. Any action on reducing emissions from deforestation and degradation in developing countries could lead to better protection of forests with prospects for rewarding countries taking measures to protect their forests. This would require establishing a trading mechanism to enable developing countries to sell carbon credits on the basis of successful reductions in emissions from deforestation and forest degradation (Miles and Kapos 2008). The full extent and implications of such arrangements under a post-Kyoto emissions reduction agreement is still unknown, however simplifying the rules under the Clean Development Mechanism (CDM) in response to additionality criteria, changing the definition of afforestation and reforestation and addressing high transaction costs will increase effectiveness (Bryan et al. 2008). Currently developing countries can benefit from the regulated carbon market under the Kyoto Protocol's CDM. With only 2% of all CDM projects, Africa lags behind Latin America, Asia and the Pacific regions which collectively host 96% of all CDM projects. (UNEP-RISO Centre; CD4CDM 2009).

As attention refocuses on forests and their newly appreciated linkages to climate change mitigation and adaptation, the spotlight on REDD and carbon trading will inevitably shift forest management objectives towards carbon trading and climate change. However, it is important for policy makers to recognise that REDD will not benefit all forests or countries equally. The impending transition from CDM to REDD in the forestry sector shifts the focus from afforestation and reforestation to management of tropical humid forests, raising concerns about potential funding inequities between humid and dry forests. Additionally, the effects of REDD on forest ecosystems and forest based livelihoods are likely to be both positive and negative. Design of REDD schemes will not always take into account other forest values (e.g., livelihoods support and timber provision) unless provisions are made during the establishment of baselines. REDD could potentially exacerbate existing inequities, keeping the poorest people on the benefit-fringe. For this reason it is important that forest management and governance policies incorporate climate change issues (adaptation and mitigation) and that climate

change policies incorporate sustainable forest management objectives.

A key challenge under any REDD scheme will be the continued demand for food, forest products and biofuels. This could mean that forests excluded from any REDD scheme could come under increased pressure to provide land and timber products (Miles and Kapos 2008).

The primary focus of carbon financing schemes is to offset emissions through forests, not to guarantee livelihoods. Understanding this distinction is important for policy makers keen to jump on the carbon bandwagon. The risks of a singular focus on carbon could easily undermine investment in biodiversity and conservation programs as well as smallholder production forestry that is essential for livelihoods.

Policy makers will need to acknowledge that making REDD work involves understanding a complex value chain comprising governments, local communities, the private sector and donors. The full costs of managing carbon along this value chain must be taken into account, including operational costs, monitoring costs and costs associated with re-tooling institutions. Given the number of potential beneficiaries, the cost of carbon might prove to be higher than currently anticipated.

BOX 1: *Possible impacts of climate change*

1. Declining productivity of agricultural land will put pressure on forests for new agricultural land. Net revenues from rainfed agriculture could decline by as much as 50% by 2020.
2. Threats to ecosystems and species increase in coastal forest areas (West Africa) and in the woodlands in east and southern Africa.
3. Water stress and scarcity develop, with consequences for agriculture and economic development.
4. Reduced forest diversity and resilience alters the environmental and livelihood services of forests.
5. Reducing access to, and the quality of, natural resources that are important to sustain livelihoods undermines human security.
6. The kinds of human insecurity that climate change may affect can in turn increase the risk of violent conflict.
7. The capacity of states to act in ways that promote human security and peace is undermined.
8. The direct effects on livelihoods and indirect effects on state functions increase the risk of violent conflict.

Source: IPCC (2007a)

Climate Change Adaptation

The impacts of climate change (see Box 1) are likely to be considerable for SSA. Many countries in SSA are considered to be particularly vulnerable due to:

- a high reliance on natural resources such as forests for economic development and as livelihood safety nets;
- limited ability to adapt financially and institutionally;
- low per capita GDP and high poverty;
- weak institutional and political conditions;
- and a lack of safety nets outside of natural systems e.g. insurance.

Under these conditions, climate change threatens to undermine the livelihoods of the poor. It will adversely impact forests, water resources, human settlements (including coastal cities) and well-being, increasing vulnerability and reducing resilience. For many countries, climate change will undermine national economic development and the potential to achieve the targets established by the Millennium Development Goals (MDG).

It can be reasonably assumed that direct and indirect impacts of climate change on livelihoods and governments will undermine human security, induce migration and lead to conflict. The vulnerability of people to climate impacts will to a large extent depend on the extent to which their relative dependence on climate sensitive resources, such as forests, for their livelihoods (Barnett and Adger 2007). The vulnerability of communities to climate change cannot be viewed in isolation from issues of poverty and other factors that may determine their adaptation capacity.

The potential for climate change to undermine human security in SSA could conceivably be high because of the dependence of most of the subcontinent's population on climate sensitive resources such as water, forests and agricultural products. For instance, Sub-Saharan African agriculture is 96% rain-fed and highly vulnerable to weather shocks. Additionally, 70% of the rural population of SSA depends directly or indirectly on forests and woodlands for household livelihood resources such as fuel wood and charcoal for energy, food, herbs, tree bark and nutritional supplements, especially vitamin and mineral sources for children (World Bank 2007).

Climate change is likely to alter the temporal and spatial distribution of diseases such as malaria and dengue, potentially increasing the disease burden and child and maternal mortality. The availability

of medicinal plants could also be affected by climate change. The net effect will be a reduced capacity to respond to diseases.

Experience gained from managing SSA's large number of shared river and lake basins could provide a workable framework for implementing climate change adaptation measures, including minimizing potential conflicts. A transboundary approach to water management will not only help minimize the impact of climate change but has the added potential of yielding a peace dividend.

A major challenge for SSA is reducing the vulnerability of climate-sensitive sectors—including forestry, energy and water resources—to current climate variability and "climate-proofing" future development activities. Some countries have responded to climate risks by developing National Adaptation Programmes of Action (NAPAs) through the UNFCCC special assistance to Least Developed Countries (LDC). As of October 2008 the UNFCCC secretariat had received NAPAs from 38 developing countries in SSA (UNFCCC 2008). But few of these adaptation plans and policies incorporate forests, despite clear reasons to do so. Forests play key roles by mitigating extreme climate events like floods, droughts, heat and dust storms. Many socioeconomic sectors and people depend on ecosystem services provided by forests, e.g. hydropower or local communities depending on reliable water quality and quantity. These and other ecosystem services—e.g. watershed protection, timber production and biodiversity conservation—are highly vulnerable to climate change. These forest services can be secured through adaptation approaches such as the conservation and improved management of forests.

Responding to climate change through mitigation and adaptation requires synergies and integrated cross-sectoral approaches; otherwise forests might be excluded from adaptation policies. People's capacity to adapt to adverse climate change impacts is reduced by a complex array of social, economic, environmental and many non-climatic stresses. For adaption to be equitable and effective, policy makers need to understand the multidimensional and differentiated nature of poverty and vulnerability (Tanner and Mitchell 2008a).

Reducing the vulnerability of forests and those elements of society that depend on forests will require both mainstreaming adaptation into forest management so that forest managers consider climate change threats on forests. It will also demand mainstreaming forests into adaptation so that non-forest sectors consider improved forest management as adaptation measures.

Governance

Halting deforestation and degradation while simultaneously improving livelihoods requires making hard choices. These choices involve issues such as access to forest resources, equity, benefit sharing and the rights of indigenous peoples and communities. Consideration will have to be given to the appropriate role and capacity of traditional knowledge and community based forest and resource management organizations as climate change impacts land use options and forests.

One of the biggest forest policy challenges is that of governance, specifically tenure. The tenure disconnect has compromised development in many African countries over decades and could undermine implementation of REDD. REDD may not succeed if the underlying causes of deforestation and poor governance—corruption, tenurial insecurity, multi-layered tenure regimes, illegal logging—are not adequately addressed. Lack of clear tenurial arrangements can fuel local conflicts and constrain climate adaptation and benefits distribution efforts.

As the impacts of climate change take effect, the tenure forms existing today are likely to be altered in unanticipated ways. For example, areas currently designated as protected forests may in fact revert to non-forest land, requiring rethinking land-use patterns and tenure. Policy makers will need to monitor the implications of climate change induced land-use changes on tenure regimes and rights holders.

A recent study by the Rights and Resources Group found that, while challenges remain, the decades-old global trend of transferring forests from government to local ownership has continued. The report also found that the area of forest under management of local communities, indigenous groups, private companies and individuals has increased (Sunderlin et al. 2008). If these rights are fully realized in practice, the trends reported above are encouraging and present an additional policy challenge for REDD activities. Many NGOs are concerned that the benefits and costs of REDD-related activities will not be shared equitably with indigenous peoples and local communities, groups that currently contribute to the conservation and management of carbon rich ecosystems including forests. Indigenous peoples and local communities will most likely have to form legally recognised institutions so that any funds that they might earn from incentive schemes can be paid to them.

An additional policy concern regarding equity is the inevitable elite capture of revenue within countries and communities that could result from a sudden increase in financial support for REDD activities either through market-based mechanisms or through public funding. Minimizing elite capture requires strengthening of local institutions

so that any increase in the value of forests arising from carbon trading is equitably and legitimately distributed (Luttrell et al. 2007).

Debates on the impacts of climate change often argue that it is the poor who are most vulnerable. While this is generally true, it is important to understand that poverty affects people differently. This means that the vulnerability of poor people to climate change will also vary. Clear understanding of the links between poverty and vulnerability can help design relevant responses to climate change. This calls for an approach that closely examines the geographical and asset context of vulnerable communities and how household vulnerability varies within these locations (Tanner and Mitchell 2008b). Understanding the context of vulnerability is not an academic exercise. It can mean choosing between advocacy and technical responses to adaptation. For example, if justice and equity are key considerations, then the response is often raising funds for advocacy rather than for research and technology (*Ibid.*).

Expanding the role of individuals and companies in the growing, protection and management of forest and trees requires secure tenure and institutional arrangements that guarantee inclusion by those investing in these efforts (FAO 2003). However, carbon forestry is not the same as in community forestry, and at the national level, the ownership rights of forests for carbon reductions are not clear, creating uncertainty among producers and buyers of carbon (Luttrell et al. 2007).

Globalization

The globalization paradigm has gained much currency in the past 10-15 years in the context of economic, environmental, community and technological phenomena. While global change has brought real benefits to SSA in the form of greater productivity, increased trade, improved communication and a more informed and questioning society, millions of the region's people remain mired in poverty. Unless countries understand the "rules of the game," the globalized economy poses many risks, especially for economically weak countries and the poorest people within them. Hence globalization cannot be unqualified and unrestricted. Mechanisms to protect poorer countries and the poor within them against negative impacts must be built into globalization processes.

Historically, globalization has been linked to the failure of environmental management policies in many developing countries. The globalization of certain macro-economic policies was achieved through structural adjustment programs (SAPs) and Poverty Reduction Strategy Papers (PRSPs). The World Bank and the International Monetary Fund (IMF) used SAPs as part of the conditions for developing country governments to secure loans. The SAPs were criticised for undermining economic development and for explicitly excluding the environment in their design (Khor 2005). While being silent on the environment, SAPs were blamed for unprecedented natural resource extraction for export and undermining the interests of resource dependent communities.

The discourse on the implementation of REDD projects and carbon trading is global in nature for many reasons, including the commitments made under the UNFCCC, the growth of the carbon market and proposed funding mechanisms for carbon trading. However, REDD implementation requires national action and regulation. This means that in responding to global climate change, the issues of equity and responsibility between developed and developing countries need to be addressed within the context of the principle of "common but differentiated action."

The process of globalization means that most impacts on forests will be driven by factors outside the sector, and consequently the ability of governments to influence them will often be limited. Global forest trends and decisions made in far flung places impact how forests are managed at the national and local levels. Even in those cases where the possibilities to influence do exist, many developing country governments lack the capacity to monitor global trends in forest products or decisions made at international fora that impact national level priorities and policies.

Physical distance has become less important under globalization. The growing demand for timber in countries such as China and India is having a major impact on forestry practices in countries such as Gabon, Equatorial Guinea, Cameroon and the DRC. China's trade with Africa has grown as demand for imports has risen to fuel the rapidly expanding manufacturing sector; China has recently surpassed Britain to become Africa's third biggest trading partner behind the U.S. and France (Canby et al. 2008). However, the global financial crisis might dampen China's appetite for wood. An estimated 60% of wood imports are re-exported and with demand in Europe and North America declining due to a global recession, China might reduce its imports of timber from Africa and other parts of the world.

With multiple drivers of change and interested actors both within and outside the forestry sector, predicting impact pathways is difficult (Nair 2005). New partnerships and alliances in varying configurations (between governments, the private sector and communities) are constantly emerging and influencing how forests are managed based on negotiations and joint actions that could undermine local interests in the forest. Whether these new partnerships and alliances can reduce deforestation

is not clear. Such a dynamic and fluid situation could make coordination of REDD projects more challenging and attribution of impacts (carbon reduction) to a particular alliance or partnership equally difficult.

Globalization also brings into sharp focus the competition between "globalism" and "localism." This is manifested in the implementation plan of REDD which addresses the principle that developed countries should assume greater responsibility for GHG mitigation than their developing counterparts. This risks the possibility that local adaptation needs are subjugated to global concerns. Forest areas identified as a priority for tackling deforestation to reduce emissions (for the global benefit) may not always reflect local or national forest values (e.g., conservation, livelihoods support, or culture). Similarly, some forest areas and hence management objectives may be less valuable from a carbon perspective but of high priority for other reasons. The challenge is to ensure that these competing values get equal recognition and funding under a shared global responsibility in responding to climate change.

If SSA is to make any meaningful progress in meeting its development objectives, it must address its energy poverty. It has diverse and abundant energy sources that are underdeveloped and poorly utilized. Unstable fuel prices, aspirations of fuel self sufficiency (especially for non-oil producing and landlocked countries), concerns over global warming and worldwide energy use have been stimuli for many countries to look into developing alternative energy sources including biofuels from palm oil and jatropha. Failure to address energy poverty will increase pressure on the forests and woodlands that are a primary source of energy for an estimated 575 million people (Cotula et al. 2008).

Biofuel development could have positive impacts on remaining forests and forest dependent people if developed on degraded forest lands in a manner that supports income generation from smallholder producers and takes into account environmental conservation concerns. But there are debates about the pros and cons of commercial biofuel production. Where there are competing land uses with no security of land tenure, the expansion of commercial biofuel production can marginalize poor local resource users, denying them access to land and resources that are essential for their nutritional, health, cultural and economic well-being (*Ibid.*)

Any rapid expansion of biofuel plantations should be of concern to policy makers for several reasons. First, the demand for land is likely to cause governments to enter into agreements with private investors—resulting in land "give-aways"—without adequately protecting the interests of local people or minimizing ecological damage. Such land grabs could reverse progress that has been made towards securing community forest rights. Second, unsustainable biofuel polices can lead to large scale forest conversion as is the case in the DRC. Having identified biofuel production as a priority for industrialization, the Congolese government is reported to have awarded a Chinese company the right to develop a 3 million hectare oil palm plantation (Biopact 2007). Third, biofuel polices need to be developed in concert with policy makers in other sectors, especially agriculture, energy and macro-economics.

Conclusion

The key forest policy challenges that will face countries in SSA include:

1. *Transforming forestry organizations*: The policy context and content for sustainable forest management has become more complex, requiring fresh approaches, innovative institutional arrangements and new skills. Procedures and legislation developed in response to past demands for forest goods and services and contexts might have to be reviewed and refined in response to the climate change agenda. In many countries national forestry institutions involved in research, extension, administration and education have not kept pace with rapid changes in the sector after colonialism. Issues such as decentralization of forest management, increasing numbers of tradeoffs that need to be considered when allocating forest resources, the emergence of new market opportunities for forest goods and services and the changing role of the private sector are often inadequately addressed. In this context, planning and coordination are weak. As a result, the full potential and opportunities of forests to enhance human well-being and the environment remain unexploited, while key issues with large impact potential such as climate change are not being tackled.
2. *Mainstreaming adaptation into forest management and forests into management plans:* IPCC assessments place Africa as a priority for adaptation assistance due to Africa's large share of the world's drylands, the high number of least developed countries, fragile resources, variable climates, relatively weak institutions and low human capacity for managing the multiple stresses related to climate change vulnerability (IPCC 2007b).
3. *Promoting a sub-regional approach for engagement in UNFCCC processes:* SSA has a number of sub-regional economic

groupings that can provide a basis for developing common visions and a greater voice in international negotiations to overcome the diverse economic, social, ecological and cultural values. The Central African Forest Commission (COMIFAC) is a good example. Another example is provided by the Common Market for East and Southern Africa (COMESA) which has argued for greater attention to be given to the carbon markets for dry forest ecosystems.

4. *Reducing vulnerability and emissions through a regional response:* Urgent steps must be taken to develop adaptation plans within the context of transboundary resource management cooperation such as management of shared river basins and forests. Such an approach will go some way to limit transboundary climate change impacts. In addition, such an approach can yield a peace dividend in the event of serious resource conflicts. Furthermore, countries should consider the possibility of using similar methodologies for determining emission levels and explore how regional cooperation can contribute to reducing regional displacement of emissions.
5. *Clarifying rights and ownership:* The question of who will own carbon reductions is still to be resolved. This issue is complicated by the fact that along the impact pathway there are likely to be many players contributing to the carbon reductions. Without clarity over the right to benefit from carbon it is difficult to know at what level decision making over benefit sharing will take place. In particular what will the role of the government be?
6. *Understanding globalization:* Climate change is a global issue that presents opportunities and risks for new forms of financing to forest dependent communities. Understanding the emerging arrangements and procedures is essential for effective participation in international negotiations and in the equitable distribution of the benefits between countries and within country.

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